

Amendment to the Claims:

In compliance with the Revised Amendment Format, a complete listing of claims is provided herein.

1. (Currently Amended) A method of balancing workload of a computing environment, said method comprising:

obtaining, by a manager daemon of one system of a grid computing environment, scheduler information from a scheduler of another system of the grid computing environment, said scheduler information including current free nodes of the another system, job queue of waiting jobs for the another system, shadow time for the next waiting job of the another system indicating how long the job needs to wait for resources, and one or more resources ~~protected by~~ currently unavailable due to shadow time; and

performing by the manager daemon workload balancing of at least two systems of the grid computing environment, each system of the at least two systems comprising a scheduler to schedule workload on its system, said workload balancing using at least a portion of the obtained scheduler information, and wherein the workload balancing comprises backfill scheduling a job, said backfill scheduling allowing the job to run out of order as long as it does not affect the start time of another job scheduled to execute.

2. (Currently Amended) The method of claim 1, wherein the scheduler on each system ~~comprises a complex scheduler~~ is adapted to perform backfill scheduling.

3. (Previously Presented) The method of claim 1, wherein scheduler information is obtained from at least two schedulers, and wherein one scheduler of the at least two schedulers is a different scheduler from at least one other scheduler of the at least two schedulers.

4-5. (Canceled)

6. (Previously Presented) The method of claim 1, wherein the workload balancing includes:

determining which system of said at least two systems a job is to be assigned; and  
assigning the job to the determined system.

7. (Previously Presented) The method of claim 1, wherein the workload balancing includes:

removing a job from one system of the at least two systems; and  
assigning the job to another system of the at least two systems.

8. (Currently Amended) A system of balancing workload of a computing environment, said system comprising:

~~means-a processor~~ for obtaining, by a manager daemon of one system of a grid computing environment, scheduler information from a scheduler of another system of the grid computing environment, said scheduler information including current free nodes of the another system, job queue of waiting jobs for the another system, shadow time for the next waiting job of the another system indicating how long the job needs to wait for resources, and one or more resources ~~protected by currently unavailable due to~~ shadow time; and

~~means-a processor~~ for performing by the manager daemon workload balancing of at least two systems of the grid computing environment, each system of the at least two systems comprising a scheduler used to schedule workload on its system, said workload balancing using at least a portion of the obtained scheduler information, and wherein the workload balancing comprises backfill scheduling a job, said backfill scheduling allowing the job to run out of order as long as it does not affect the start time of another job scheduled to execute.

9. (Currently Amended) The system of claim 8, wherein the scheduler on each system ~~comprises a complex scheduler is adapted to perform backfill scheduling.~~

10. (Previously Presented) The system of claim 8, wherein scheduler information is obtained from at least two schedulers, and wherein one scheduler of the at least two schedulers is a different scheduler from at least one other scheduler of the at least two schedulers.

11-12. (Canceled)

13. (Currently Amended) The system of claim 8, wherein the means-processor for workload balancing includes:

means-a processor for determining which system of said at least two systems a job is to be assigned; and

means-a processor for assigning the job to the determined system.

14. (Currently Amended) The system of claim 8, wherein the means-processor for workload balancing includes:

means-a processor for removing a job from one system of the at least two systems; and

means-a processor for assigning the job to another system of the at least two systems.

15. (Currently Amended) An article of manufacture comprising:

at least one computer usable medium having computer readable program code logic to balance the workload of a computing environment, the computer readable program code logic comprising:

obtaining, by a manager daemon of one system of a grid computing environment, scheduler information from a scheduler of another system of the grid computing environment, said scheduler information including current free nodes of the another system, job queue of waiting jobs for the another system, shadow time for the next waiting job of the another system indicating how long the job needs to wait for resources, and one or more resources ~~protected by currently unavailable due to shadow time~~; and

performing by the manager daemon workload balancing of at least two systems of the grid computing environment, each system of the at least two systems comprising a scheduler used to schedule workload on its system, said workload balancing using at least a portion of the obtained scheduler information, and wherein the workload balancing comprises backfill scheduling a job, said backfill scheduling allowing the job to run out of order as long as it does not affect the start time of another job scheduled to execute.

16. (Currently Amended) The article of manufacture of claim 15, wherein the scheduler on each system ~~comprises a complex scheduler is adapted to perform backfill scheduling~~.

17-18. (Canceled)

19. (Previously Presented) The article of manufacture of claim 15, wherein the workload balance logic includes:

determine logic to determine which system of said at least two systems a job is to be assigned; and

assign logic to assign the job to the determined system.

20. (Previously Presented) The article of manufacture of claim 15, wherein the workload balance logic includes:

remove logic to remove a job from one system of the at least two systems; and

assign logic to assign the job to another system of the at least two systems.